



**CITY OF BOULDER
ENVIRONMENTAL ADVISORY BOARD MEETING AGENDA**

DATE: March 4, 2015

TIME: 6 p.m.

PLACE: 1777 Broadway, 1st floor, 1777 W. Conference Room

1. CALL TO ORDER

2. APPROVAL OF MINUTES

- A. The **January 7, 2015** Environmental Advisory Board meeting minutes and **February 4, 2015** Environmental Advisory Board retreat minutes are scheduled for approval.

3. PUBLIC PARTICIPATION

4. PUBLIC HEARING ITEMS

- A. Commercial and Industrial Energy Efficiency Ordinance Update (Kendra Tupper and Elizabeth Vasatka, LEAD)

5. DISCUSSION ITEMS

6. OLD BUSINESS/UPDATES

- A. Boulder Energy Challenge Update
- B. Board Protocol for Responses to Public Emails
- C. Clean Energy Tech Team EAB Representative

7. MATTERS FROM THE ENVIRONMENTAL ADVISORY BOARD, CITY MANAGER, AND CITY ATTORNEY

8. DEBRIEF MEETING/CALENDAR CHECK

9. ADJOURNMENT

**CITY OF BOULDER ENVIRONMENTAL ADVISORY BOARD
MEETING GUIDELINES**

CALL TO ORDER

The board must have a quorum (three members present) before the meeting can be called to order.

AGENDA

The board may rearrange the order of the agenda or delete items for good cause. The board may not add items requiring public notice.

PUBLIC PARTICIPATION

The public is welcome to address the board (three minutes* maximum per speaker) during the Public Participation portion of the meeting regarding any item not scheduled for a public hearing. The only items scheduled for a public hearing are those listed under the category PUBLIC HEARING ITEMS on the agenda. Any exhibits introduced into the record at this time must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.

DISCUSSION AND STUDY SESSION ITEMS

Discussion and study session items do not require motions of approval or recommendation.

PUBLIC HEARING ITEMS

A Public Hearing item requires a motion and a vote. The general format for hearing of an action item is as follows:

1. Presentations

- Staff presentation (15 minutes maximum*) Any exhibits introduced into the record at this time must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.
- Environmental Advisory Board questioning of staff for information only.

2. Public Hearing

Each speaker will be allowed an oral presentation (three minutes maximum*). All speakers wishing to pool their time must be present, and time allotted will be determined by the Chair. Two minutes will be added to the pooled speaker for each such speaker's allotted time up to a maximum of 10 minutes total.

- Time remaining is presented by a green blinking light that means one minute remains, a yellow light means 30 seconds remain, and a red light and beep means time has expired.
- Speakers should introduce themselves, giving name and address. If officially representing a group please state that for the record as well.
- Speakers are requested not to repeat items addressed by previous speakers other than to express points of agreement or disagreement. Refrain from reading long documents, and summarize comments wherever possible. Long documents may be submitted and will become a part of the official record.
- Any exhibits introduced into the record at the hearing must be provided in quantities of eight to the Board Secretary for distribution to the board and admission into the record.
- Interested persons can send a letter to the Community Planning and Sustainability staff at 1739 Broadway, Boulder, CO 80302, two weeks before the Environmental Advisory Board meeting, to be included in the board packet. Correspondence received after this time will be distributed at the board meeting.

3. Board Action

Board motion. Motions may take any number of forms. Motions are generally used to approve (with or without conditions), deny, or continue agenda item to a later date (generally in order to obtain additional information).

- Board discussion. This is undertaken entirely by members of the board. Members of the public or city staff participate only if called upon by the Chair.
- Board action (the vote). An affirmative vote of at least three members of the board is required to pass a motion approving any action.

MATTERS FROM THE ENVIRONMENTAL ADVISORYBOARD, CITY MANAGER, AND CITY ATTORNEY

Any Environmental Advisory Board member, City Manager, or the City Attorney may introduce before the board matters which are not included in the formal agenda.

ADJOURNMENT

The board's goal is that regular meetings adjourn by 8 p.m. Agenda items will not be commenced after 8 p.m. except by majority vote of board members present.

*The Chair may lengthen or shorten the time allotted as appropriate. If the allotted time is exceeded, the Chair may request that the speaker conclude his or her comments.

**CITY OF BOULDER, COLORADO
BOARDS AND COMMISSIONS MEETING SUMMARY**

NAME OF BOARD/COMMISSION: Environmental Advisory Board

DATE OF MEETING: January 7, 2015

NAME/TELEPHONE OF PERSON PREPARING SUMMARY: Juliet Bonnell,
303-441-1931

NAMES OF MEMBERS, STAFF AND INVITED GUESTS PRESENT:

Environmental Advisory Board Members Present: Mara Abbott, Stephen Morgan, Tim Hillman, Morgan Lommele and Brad Queen.

Staff Members Present: Brett KenCairn, Kara Mertz, Jamie Harkins and Juliet Bonnell

MEETING SUMMARY:

- The board felt that source reduction and upstream conservation should be a priority of the Zero Waste Strategic Plan and would also like to see more incentives for creative reuse organizations.
- Several members of the board strongly supported making the draft ordinance more aggressive than it currently is.
- **B. Queen** suggested emphasizing the value of increasing waste diversion for the community. He noted the importance of ensuring that ordinance requirements are cost-effective and efficient. The least cost overall is minimal impact. Being unduly aggressive without regard to cost in these regulations may have a larger environmental impact. If regulations are done with eloquence then the market can respond in scale. There are many opportunities for increasing efficiency because the system is not efficient as it stands.
- **S. Morgan** expressed interest in ensuring that trash, recycling and compost service costs are manageable for those affected by the ordinance, particularly small businesses who are leasing their space. He wanted all perspectives and needs to be represented and respected in the development of the ordinance.
- **M. Abbott** stated that the proposed ordinance should be more aggressive in order to move Boulder toward zero waste more quickly. She recommended that all businesses and residents (including those of MFU complexes) should be required to provide and use trash, recycling, and compost services. She suggested tightening up the timeline of compliance requirements and ensuring that exemptions are difficult to obtain. She felt that zero waste should be part of our community's culture in which everyone participates.
- **M. Lommele** encouraged making the draft ordinance more stringent than staff's proposal. She suggested that exemptions shouldn't cost an exorbitant amount and that more ways to incentivize innovation should be created.

- **T. Hillman** supported the exemptions proposed by staff, especially the ones that allow for sharing zero waste services, self-hauling, and employing innovative alternatives to recycling and composting. He encouraged more aggressively requiring all levels of service for all residents and businesses.

1. CALL TO ORDER

The Environmental Advisory Board Chair **M. Abbott** declared a quorum and the meeting was called to order at 6:06 p.m.

2. ELECTION OF CHAIR AND VICE-CHAIR

On a motion by **M. Abbott**, seconded by **M. Lommele**, **S. Morgan** was nominated as Chair, the Environmental Advisory Board approved (5-0) this appointment of Chair.

On a motion by **M. Abbott**, seconded by **M. Lommele**, **T. Hillman** was nominated as Vice-Chair, the Environmental Advisory Board approved (5-0) this appointment of Vice-Chair.

3. APPROVAL OF MINUTES

On a motion by **M. Abbott**, seconded by **B. Queen**, the Environmental Advisory Board approved (5-0) the December 3, 2014 meeting minutes.

4. PUBLIC PARTICIPATION

5. PUBLIC HEARING ITEMS

Zero Waste Strategic Plan Update (Kara Mertz and Jamie Harkins)

J. Harkins and **K. Mertz** provided an update to the board on the Zero Waste Strategic Plan and draft ordinance options.

6. DISCUSSION ITEMS

EAB Retreat preparation discussion

7. OLD BUSINESS/UPDATES

8. MATTERS FROM THE ENVIRONMENTAL ADVISORY BOARD, CITY MANAGER, AND CITY ATTORNEY

B. Queen introduced the desire to achieve an integrated approach among different boards and council to what can be conflicting requirements. He noted that it would be beneficial if there was some integration in the evaluation of plans across various city objectives.

B. KenCairn responded that there are some interesting models for what this could look like and offered to discuss this further with **B. Queen**.

9. DEBRIEF MEETING/CALENDAR CHECK

Joint board meeting to discuss AMPS on Wed, Jan 21st from 6-8 p.m. at Shine Restaurant

10. ADJOURNMENT

Environmental Advisory Board adjourned at 8:05 p.m.

Approved:

Chair

Date

DRAFT

**CITY OF BOULDER, COLORADO
BOARDS AND COMMISSIONS MEETING SUMMARY**

NAME OF BOARD/COMMISSION: Environmental Advisory Board

DATE OF MEETING: February 4, 2015

NAME/TELEPHONE OF PERSON PREPARING SUMMARY: Juliet Bonnell,
303-441-1931

NAMES OF MEMBERS, STAFF AND INVITED GUESTS PRESENT:

Environmental Advisory Board Members Present: Mara Abbott, Tim Hillman, Stephen Morgan, Morgan Lommele, and Brad Queen.

Staff Members Present: Susan Richstone, Brett KenCairn, Juliet Bonnell

Facilitator: Heather Bergman

1. Welcome and Introductions

2. Review Meeting Objectives/Desired Outcomes

- Debrief accomplishments of 2014
- Board goals and focus areas for 2015

3. Debrief of 2014

A. Key accomplishments for 2014

B. What worked? What was successful?

Elements in 2014 that were effective and successful (meeting format, public engagement, etc.)

The board succeeded in elevating their visibility to council, other boards and the community and ensured that key environmental topics were considered in other boards' work. EAB elevated the importance of key topics and felt good about the on-going updates they received and opportunities they were given to provide feedback on items. Neonics was specifically mentioned as an item where the board appreciated the continuity of the issue and the staff relationship building that went along with that continuity. The board appreciated staff presentations that were 15 minutes or less.

Board members were pleased with the current dynamic of the board. They appreciated the diverse perspectives and the balance of technical expertise with outreach and mediation knowledge and skills that members bring to the group. The newest board member was immediately engaged and added value to the board.

The board appreciated having a board representative in both the Commercial and Industrial Energy Efficiency Working Group and the Boulder Energy Challenge group. The board was excited to see the progress being made on the Commercial and Industrial Energy Efficiency Ordinance and the Zero Waste Ordinances as well as the success of the Boulder Energy Challenge.

The board felt good that they raised awareness among staff that communications surrounding municipalization must be improved. Board members noted that community perception of municipalization is not positive and that changes to the communication strategy should be made to address this issue.

C. What didn't work? What did we learn?

Lessons from 2014 to be more successful in 2015.

The board acknowledged that they began to deviate from their typical format of listening to staff's presentation, asking questions, followed by the opportunity for each board member to provide comments prior to opening the topic up for broader discussion. They reminded each other to be aware of this and sensitive to the time available for each member to speak moving forward.

The board would like to have more opportunity to weigh in on tactical issues related to key issues. It was noted that some information that was provided to the board lacked context, strategy and cost/benefit information which the board agreed would be helpful in the future. The board continued to seek clarity regarding their roles and the scope of their work. They would like to see more continuity with issues, so that the board doesn't just receive an update or provide input on a project and never hear about it again. They would appreciate more follow up and feedback on how their input was used and the outcome of projects that they've weighed in on (specifically they'd like to receive more information about bears/trash, municipalization, and climate). In 2015 staff will create a structure for following up on issues and ensuring that the board remains in the loop and knows that their input has made a difference.

It was suggested that appropriate materials be provided to new board members to provide them with effective on-boarding and ensure they are informed about previous and future topics that the board will be dealing with. The board disliked when presentations were more than 15 minutes cutting into the time allowed for questions and discussion.

The board noted that they would appreciate and benefit from receiving more public input and perspectives from stakeholders on issues at their meetings, but understood that many members of the community may not be able to or inclined to attend EAB meetings.

4. Debrief of 2015 City Council priorities and staff work plan

S. Richstone provided the board with an update on the 2015 City Council priorities and the staff work plan. The topics that will most benefit from EAB comment are:

- Energy Future/municipalization
- Climate Commitment
- Greenhouse gas inventory
- Commercial and Industrial Energy Efficiency Ordinance
- Zero Waste ordinances
- Ordinance implementation
- Neonics
- Local foods

The board emphasized that the communication strategy and approach that is used in 2015 regarding municipalization needs to be revised in order to adequately address concerns that community perception and support for municipalization has diminished.

Staff will work with **B. KenCairn** to ensure that an EAB member is selected and will be invited to attend future Energy Tech team meetings to help inform Energy Future issues.

5. Operation Issues for Board Discussion

- Review of Board bylaws, meeting format, succession planning, etc

The board agreed that city initiatives that need EAB input (especially prior to going to council) are their top priority. They suggested that staff presentations be between 5 and 15 minutes with plenty of time for Q&A. The board was interested in balancing the following priorities:

- EAB priorities with providing necessary feedback to staff
- Receiving necessary information with saving time for discussion
- Discussing important issues while being cognizant of time

Board members continue to look for clarity of their roles and want to know how they can best help council, the city, staff and their community. The different outreach roles the board identified for themselves included board members simply representing their thoughts on issues, board members informally gathering feedback from the community on issues and bringing that information to board meetings and staff, and/or board members reaching out to community members to provide education about city efforts, gathering feedback and bringing that information back to board meetings and staff. The board agreed that their level of outreach participation would vary depending on the issue and staff's needs and also noted that their current level of participation is what they intend to continue in 2015. This participation consists of board members reading packet materials, informally gathering thoughts from friends and colleagues and bringing these perspectives (through the board members' lenses) to the meetings for discussion.

Board members agreed to more actively report out on information they gathered when representing the board on working groups. Board members will inform **J. Bonnell** and **B. KenCairn** when they plan to report out on key issues, so that time can be allotted on the agenda under Matters.

- Board recruitment

The board appreciates the varied skill sets of its members and would like to maintain a similar balance when a new member is recruited. Some qualities that the board would like to see in its new member are that they be an activist with grassroots connections in the community, be a part of the business community, have experience related to municipalization and climate/energy/environmental issues, have relevant knowledge of the issues in the EAB's Bylaws, and/or have a "new voice" or bring a new and different perspective to the board. Additionally, the board values the gender balance represented in its membership and would like to maintain this balance in the future; the outgoing member of the board is a woman, so the board would like to see a woman fill this seat in the future.

The facilitator informed the board that a Board and Commissions Committee was being formed by City Council (currently comprised of council members Tim Plass and Andrew Shoemaker) to provide a more direct link between boards and council. Board members encouraged each other to

actively recruit new members with the discussed preferred qualities and **M. Lommele** volunteered to contact Andrew Shoemaker to request that council consider appointing a new board member with EAB's preferred qualities and skill set.

6. Discuss 2015 Board Priorities in relation to Council Priorities and the 2015 Work Plan

- How does the board want to integrate with and support city work efforts in 2015?
- Which project or issue areas should be the board's highest priorities?

The EAB's priorities are to provide proactive feedback to staff and they would prefer to be engaged early in the process so that their feedback can be adequately incorporated into the final work products. They suggested that staff should present to the board only when board feedback and recommendations would be helpful. Updates on projects (when feedback isn't necessary) can simply be provided to the board in writing.

The board's highest priorities and their intended roles include:

- Municipalization communications - request staff to stop their current methods of outreach and engagement which are not working and provide advice on restructurizing a new communications plan to engage the public on municipalization
- Climate/GHG inventory – receive information and provide feedback on strategies
- Integrated view of various topics from staff (per EAB letter to Council) – receive information and provide feedback
- Neonics – receive information and provide feedback
- Commercial & Industrial Ordinances and Zero Waste Ordinances – receive information and provide feedback including reporting what board members are hearing within the community

Since owner-occupied energy efficiency has not been identified as a council priority or staff work plan item, EAB will not focus on this topic directly this year, but they still feel that this is an important issue to address sooner than later.

7. Review draft 2015 board calendar

Identify key priority areas for the Board.

8. Next Steps/Action Items

- **J. Bonnell** will check in with other board secretaries to determine what the board protocol is for responding to emails from citizens and bring this information to the March 4 EAB meeting.
- **B. KenCairn** will talk with **Lesli Ellis** about providing the board with an update on the Boulder Valley Comprehensive Plan in June or July 2015.
- **J. Bonnell** will send **M. Lommele** a list of EAB's preferred qualities for its new board member and **M. Lommele** will contact Councilman Andrew Shoemaker with this list.

Approved:

Chair

Date

MEMORANDUM

To: Environmental Advisory Board

From: Department of Community Planning and Sustainability
David Driskell, Executive Director
Susan Richstone, Deputy Director
Kendra Tupper, Energy Service Manager
Elizabeth Vasatka, Business Sustainability Coordinator

Date: March 4, 2015

Subject: Commercial and Industrial Energy Ordinance: Rating and Reporting and Energy Efficiency Ordinance for Building Owners

The purpose of this agenda item is to obtain the Environmental Advisory Board's feedback on the proposed options for a Commercial and Industrial (C&I) Energy Ordinance in advance of a City Council Study Session in May. Specifically, staff is requesting EAB's input on the following:

1. Options and recommendations on the key components of the ordinance;
2. The city's move towards outcome based energy codes; and
3. A recommendation for council on the proposed C&I ordinance.

The full memo is attached and staff looks forward to the discussion with the Board on Wednesday, March 4.

Commercial and Industrial (C&I) Energy Efficiency Ordinance:

Rating and Reporting and Energy Efficiency Requirements for Building Owners

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1. Executive Summary

The purpose of this memo is to discuss and get Environmental Advisory Board’s (EAB) feedback on recommendations and options for the proposed Commercial and Industrial (C&I) Energy Efficiency Ordinance. Staff will be presenting options and recommendations for this ordinance to City Council on May 12, 2015 for council feedback, following which staff will draft a proposed ordinance.

Over the past eight months, the city has conducted an in-depth stakeholder engagement process around the development of options and recommendations for the proposed ordinance. This included five meetings with a working group of affected stakeholder (building owners, property managers, service providers, commercial brokers, etc), as well as broader outreach to the business community through local business organizations. Over the years, staff has also done extensive research and interviews with other cities that have adopted similar ordinances, the nonprofit that has taken the lead on providing best practices for these ordinances (Institute for Market Transformation (IMT)), and the Federal Agencies that are supporting such efforts (Department of Energy (DOE) and the Environmental Protection Agency (EPA)). Based on this research and the feedback received, staff is seeking EAB feedback on these key components of the proposed ordinance. More information on each of these key components is provided in Section 4.

Table 1: Summary of Key Components

KEY COMPONENTS OF ORDINANCE	PROPOSED OPTIONS
What would this ordinance require?	Commercial and industrial building owners (of a certain building square footage (sf)) would be required to rate and report the energy use of their buildings, and to take certain energy efficiency actions.
What buildings would be affected and when?	<p><u>Options for Building Type:</u></p> <ul style="list-style-type: none"> • Option 1A: Exclude Industrial • Option 1B: Exclude Multifamily <p><u>Options for Building Size:</u></p> <ul style="list-style-type: none"> • Option 2A: Applies to buildings > 20,000 sf and city owned buildings > 5,000 sf • Option 2B: Applies to buildings > 10,000 sf and city owned buildings > 5,000 sf <p><u>Options for Compliance Timeline:</u></p> <ul style="list-style-type: none"> • Option 3A: Require all buildings to comply with rating and reporting requirements on the same date, starting in 2017 • Option 3B: Require the largest buildings (>50,000 sf) and city owned buildings to comply in 2016, and phase in smaller building over time
Disclosure: What metrics would be disclosed and to whom?	<p>Building owners would be required to disclose total energy use and other energy performance metrics to the city and to their tenants.</p> <p><u>Options for Public Disclosure:</u></p> <ul style="list-style-type: none"> • Option 1: Limited Public Disclosure • Option 2: Public Disclosure to drive Market Transformation

KEY COMPONENTS OF ORDINANCE	PROPOSED OPTIONS
Efficiency Requirements	<p><u>Proposed Options for Energy Efficiency Requirements:</u></p> <ul style="list-style-type: none"> • Option 1: Various Prescriptive Requirements • Option 2: Whole Building Performance Standards • Option 3: Energy Assessment with No Required Action • Option 4: Energy Assessments with Limited Required Action (only lighting and retro-commissioning) • Option 5: Energy Assessments with Required Action (custom to each building, based on what is deemed cost effective)
Exemptions	<p><u>Proposed Exemptions for Rating and Reporting Requirements:</u></p> <ul style="list-style-type: none"> • Buildings with less than one year of energy use data (i.e. newly constructed buildings) • Unconditioned and unlit buildings (i.e. unconditioned airport hanger) • Proven financial hardship • Others upon request and review <p><u>Proposed Exemptions for Efficiency Requirements:</u></p> <ul style="list-style-type: none"> • Current ENERGY STAR Certification • Current LEED for Existing Buildings: Operations and Maintenance (EBOM) Certification • For the first compliance deadline: Buildings that have had an energy assessment in the past seven years and implemented measures that resulted in at least a 10 percent energy reduction • Proven financial hardship • Others upon request and review

**What is Rating & Reporting ?
(Benchmarking & Disclosure)**

- **“Rating”** is the process of measuring and comparing energy performance metrics (such as the normalized energy use of a building) to other similar buildings
- **“Reporting”** means disclosing the energy use and associated ratings to the city and other various parties (such as the public or interested buyers and tenants)

The objectives of this ordinance are to:

- ✓ **Improve** the quality of Boulder’s commercial building stock
- ✓ **Increase** awareness of efficiency opportunities and realize cost effective energy savings
- ✓ **Help** buildings owners understand and manage their buildings’ energy use
- ✓ **Educate** tenants and real estate professionals about building energy performance metrics
- ✓ **Collect** benchmarking data to inform future programs and services
- ✓ **Market** your building as energy efficient and high performing

2. Overview and Timeline

The City of Boulder is providing recommendations and options to City Council and is asking for the EAB’s input prior to council, on the proposed Commercial and Industrial (C&I) Energy Efficiency Ordinance that could go into effect as soon as 2016. This ordinance would require commercial and industrial building owners (above a certain building sf) to rate and report the energy use of their buildings, and would also require certain energy efficiency actions. Our initial proposal is that such an ordinance would only affect large (>50,000 sf) existing buildings and newly constructed buildings (>10,000 sf), with smaller existing buildings (> 20,000 sf) phased in over time.

This summary document outlines the key components of the proposed ordinance, and summarizes the feedback the city has received from its working group process and other stakeholder engagement.

Table 2: Potential Timeline for Proposed Ordinance Development

	Key Efforts	Description
Oct 2014 – Mar 2015	Stakeholder Engagement	<ul style="list-style-type: none"> • <u>Phase 1</u>: Convene a working group of affected stakeholder (building owners, property managers, etc) to help develop options for the ordinance • <u>Phase 2</u>: Broader outreach to the business and commercial building community to solicit feedback
Dec 2014 – May 2015	Develop options and recommendations	Develop recommendations and options for: <ul style="list-style-type: none"> • Timing/Phasing of ordinance • Disclosure of energy metrics • Tracking and administration • Exemptions • Incentives and support • Efficiency requirements
July – Aug 2015	Present draft ordinance to City Council	Following the study session in May, an ordinance will be drafted and presented to council for consideration.
Aug 2015 – Apr 2016	Communication/ Education Efforts Develop systems and tools for implementing the ordinance	The city will communicate the goals and logistics of the requirements to affected building owners and will develop the following: <ul style="list-style-type: none"> • A reference website for the ordinance • Implementation guides for owners and tenants • Educational and training opportunities • Incentives for early adopters • Administration and enforcement systems and procedure
April or May 2016	First compliance date	Targeted compliance deadline for the first buildings subject to compliance

3. Background Information

The City of Boulder’s greenhouse gas (GHG) inventories show that commercial and industrial buildings are responsible for nearly 60 percent of the Boulder’s total emissions. In addition to the many voluntary programs that have been in place for a number of years, council decided in 2012 that a three-phase strategy was needed to make Boulder’s existing commercial buildings more energy efficient and to reduce GHG emissions.

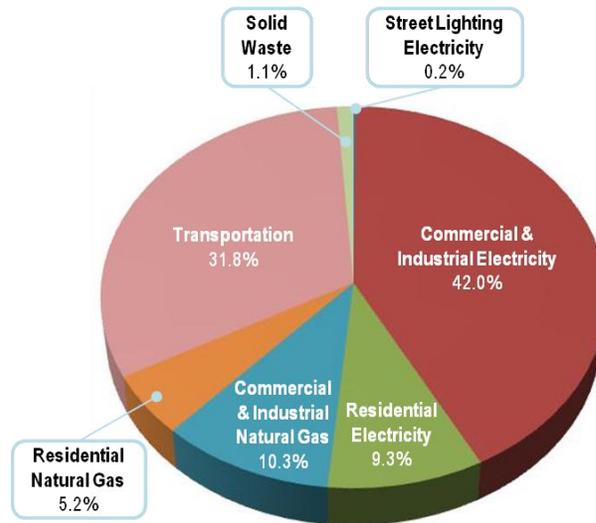
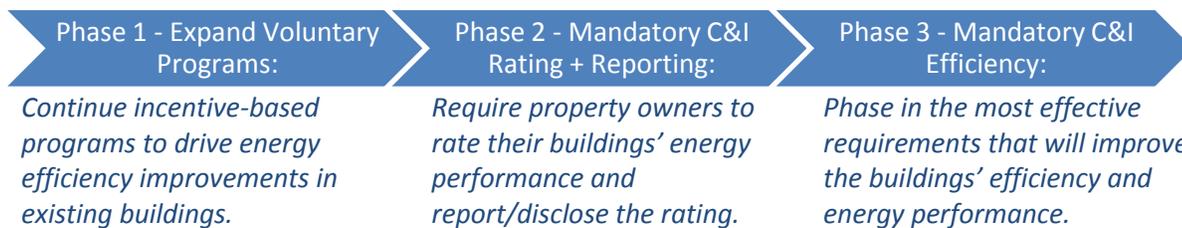


Figure 1: 2012 City of Boulder GHG Emission Inventory

3.a Three Phase Strategy for C&I Buildings



A C&I Ordinance would move the strategy beyond voluntary programs, into Phases 2 & 3 - requiring actions that would benchmark and reduce energy use while improving the quality of Boulder’s commercial building stock. This follows the model of what has been done in Boulder’s residential sector, with successful voluntary programs (EnergySmart) leading up to energy efficiency regulation on the licensed rental housing stock (SmartRegs).

3.b Brief History of Boulder’s Energy Efficiency and Rating & Reporting Journey

Since 2007, the city has offered services and support to help residents and businesses in Boulder reduce their GHG emissions:

- 1994 – present - [PACE \(Partners for a Clean Environment\)](#) program: A one-stop-shop for businesses and building owners to get free technical assistance, resources and financial incentives to implement sustainability best practices (energy, waste, water and employee transportation options)
- 2008 –2012- 10 for Change: Voluntary business challenge and networking opportunities to implement energy saving measures and sustainability best practices, with over 100 members
- 2009-2010: Designed, piloted and partnered with Boulder County’s award of the American Recovery and Reinvestment Act, Better Buildings Grant to implement EnergySmart county-wide
- 2010: Adopted [SmartRegs](#), the city’s energy efficiency requirements for licensed rental housing
- 2010-present: Boulder started researching, evaluating, educating and providing services to rate commercial buildings’ performance.

- 2011: Launched [EnergySmart](#), a suite of energy efficiency services to create awareness and to provide technical assistance (advisor service) and incentives to implement cost-effective energy efficiency improvements
 - More than 3,200 businesses and building owners served county-wide
- 2012-2013: Boulder implemented and evaluated a [Commercial Building Energy Rating & Reporting Pilot Program](#)
- 2014-2015: Development of proposed C&I Energy Efficiency Ordinance

3.c What is Rating & Reporting? What will be required of a building owner?

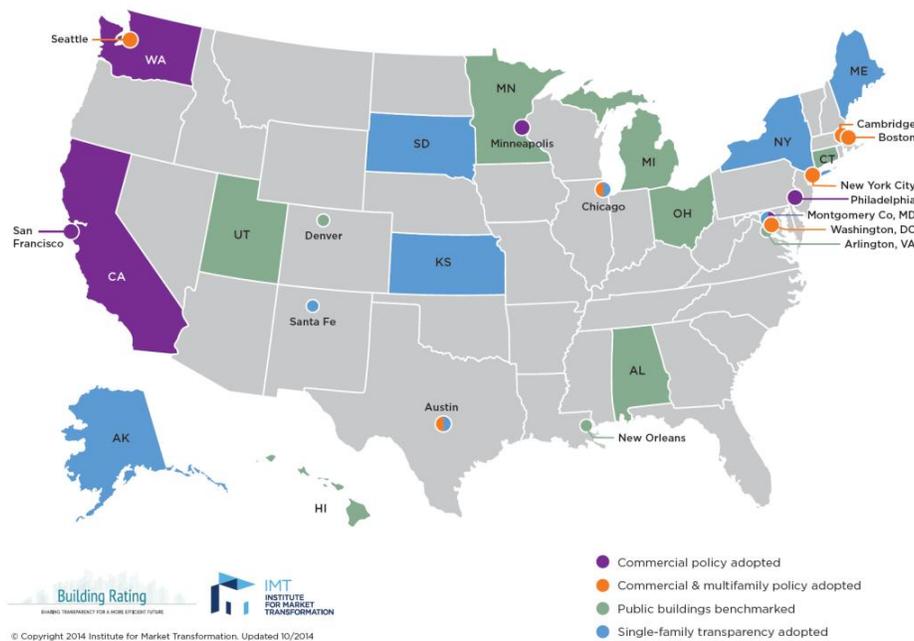
- **“Rating”** is the process of measuring and comparing energy performance metrics (such as building energy use per sf) to other similar buildings. This is done using the nationally recognized and supported, FREE, online tool, [ENERGY STAR Portfolio Manager](#) (ESPM). ESPM provides a rating system for building performance, similar to miles per gallon (MPG) but using energy use intensity (EUI)¹ instead.
- **“Reporting”** means disclosing the energy use and associated metrics and ratings to the city and other various parties (such as the public and/or interested buyers and tenants)

Under the proposed ordinance, building owners would be required to annually rate and report their buildings. To do this, they must:

1. Collect whole building energy use data
2. Enter or import required data into ENERGY STAR Portfolio Manager (ESPM)
3. Share ESPM account/data with the City of Boulder (a simple process available within ESPM)

3.d What are other cities doing?

To date, many other cities and counties across the U.S. have adopted rating and reporting requirements. The map below shows the current policies that have been adopted.²



¹ Energy use intensity is measured in terms of annual energy use per square foot.

² Institute for Market Transformation, updated Oct 2014. <http://www.imt.org/resources/detail/map-u.s.-building-benchmarking-policies>

Table 3: Summary of Commercial Building Requirements in the U.S.

City	Date Enacted	Gov't/ Comm	Multi Family	Public Disclosure? ¹	Energy Efficiency?
Austin	2008	10K SF+	Audits	B, T, G	Audits
Boston	2013	All/35K SF+	35+ units	P, G	Audits
Cambridge	2014	25K SF+	50+ units	P, G	---
Chicago	2013	50K SF+	50K SF+	P, G	---
District of Columbia	2008	10K/ 50K SF+	50K SF+	P, G	---
Minneapolis	2013	25K/ 50K SF+	---	P, G	---
NYC	2009	10K/ 50K SF+	50K SF+	P, G	Audits, RCx, Lighting, Sub-metering
Philadelphia	2012	50K SF+	---	P, G,B,L	---
San Francisco	2011	10K SF+	---	P ² , G, T, B, L ³	Audits, RCx
Seattle	2012	10K SF+	5+ units	B, G, T, L	---

¹ P = public, G = government, B = buyers, T = tenants, L = leasers & lenders
² Discloses summary of compliance, but not building energy use
³ CA's statewide initiative, AB 1103, requires buildings to disclose energy performance at point of transaction

3.e What are the benefits of Rating and Reporting (R&R)?

You can't manage what you don't measure. Knowing your building's energy performance rating is the first step towards understanding the energy use and improving a building's energy efficiency, while reducing energy waste. With an energy rating or benchmark, you can compare your building's performance against similar buildings, and against your own historical performance, to see how much you could be saving on energy costs. Rating and reporting helps to:

- MONITOR consumption trends and anomalies over time
- COMPARE building performance to peers and similar buildings
- IDENTIFY energy systems needing attention and opportunities for savings
- TRACK actual savings from improvement projects
- EDUCATE shareholders on utility costs and environmental impact

When coupled with monitoring and efficiency improvements, rating and reporting supports the following outcomes:

<p>Reduced Energy Costs: Utilities are typically the largest non-fixed expenditure of a business. R&R provides a basic but valuable way for owners and property managers to better understand energy use and identify cost-effective opportunities to cut energy waste and costs. Building owners are more likely to <u>invest in cost effective energy efficiency</u> when they are aware of energy performance and use that data to <u>inform infrastructure investments</u>.³</p>	<p>Improved Value of Building Stock: In addition to managing energy costs, <u>studies show</u> that green buildings command a market premium and provide numerous other benefits including</p> <ul style="list-style-type: none"> • 5 percent increase in building value • Lower vacancy and higher rental rates • Increased worker productivity
<p>Achievement of Local Policy Goals: Boulder has a goal to reduce GHG emissions by 80 percent by 2050. Based on savings projections from other cities, Boulder could reduce <u>overall</u> GHG emissions by ~10 percent by identifying and implementing improvements in the lowest performing commercial buildings, to bring them up to median performance. R&R will allow the city to track its energy reduction goals/target incentive dollars by market sector.</p>	<p>Better Programs and Services: R&R helps utilities and municipalities set reasonable energy efficiency targets, tailored to building space types. Benchmarking data illuminates trends that guide energy efficiency program development and outreach efforts (helps target market segments with max potential, or identify key areas of research needed). Data from R&R can be used as a low-cost method to supplement traditional evaluation, measurement, and verification methods.</p>
<p>Increased Market Transparency: Market transparency of building energy data will drive building energy efficient actions. Further, R&R provides potential tenants and buyers with information to help them evaluate those costs and recognizes buildings for efficiency improvements.</p>	<p>Job Creation: R&R policies drive increased demand for energy efficiency and management services, creating more jobs in the energy services and construction trades.</p>

3.f Interrelationship with Energy Codes

The city’s adopted commercial and industrial energy codes will need to evolve significantly in the next 10 plus years, in order to reach net zero by 2031. With this in mind, city staff is evaluating the potential evolution toward outcome based energy codes that will utilize the database of energy benchmarking data. Outcome-based energy codes go a step beyond prescriptive or performance-based codes by verifying actual energy performance in buildings. Compliance is contingent upon demonstrating that a building’s energy use, once the building is occupied, meets or exceeds a specific performance target. The city will need to transition to outcome based energy codes, at some point along the path to net zero by 2031.⁴

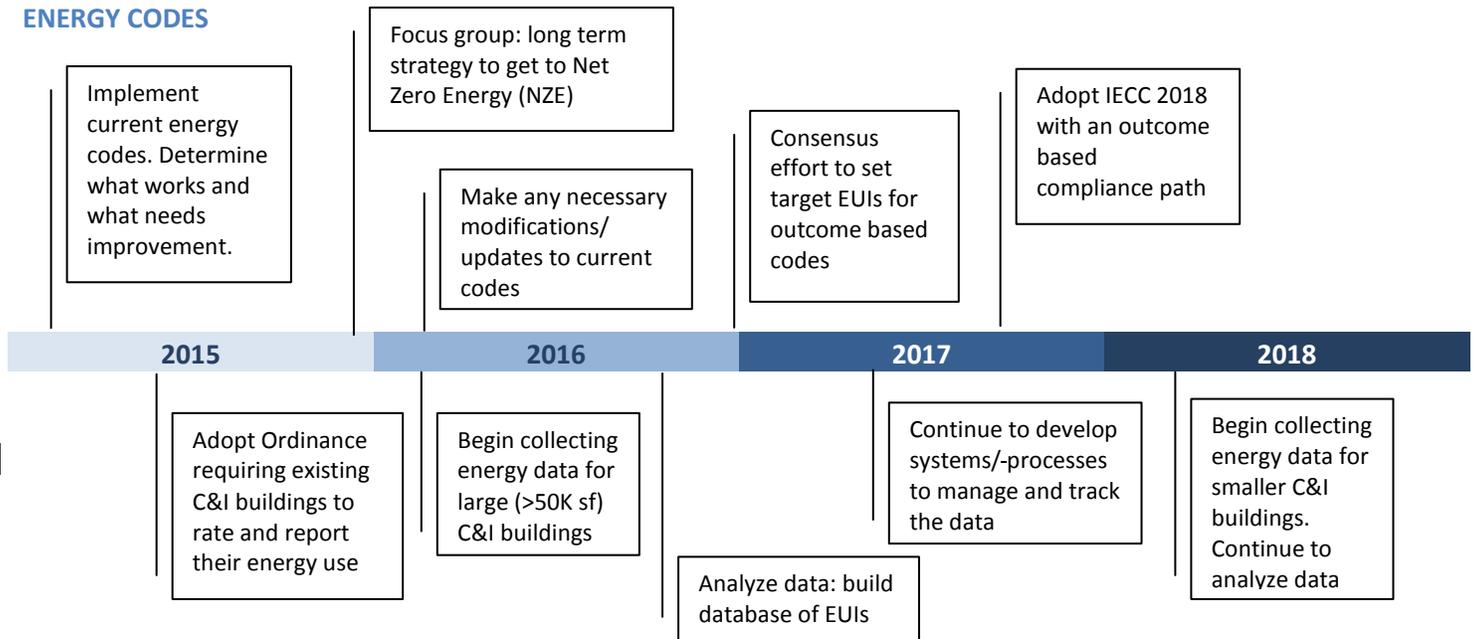
The rating and reporting program could provide a dataset to inform the targets that need to be set for outcome based codes, and also provide a method for tracking achievement of the targets in the future. Below see a proposed sequencing of how this could potentially evolve over the next several years.

³ In 2012, the U.S. Environmental Protection Agency (EPA) analyzed the energy performance of more than 35,000 buildings that received ENERGY STAR performance scores for 2008 through 2011 and found that these buildings attained average annual energy savings of 2.4% (7% over a 3 year period). http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Savings_20121002.pdf?8d81-8322

⁴ Currently, Seattle is the only city in the country that offers an outcome based compliance path.

Timeline for Commercial & Industrial Energy Codes and Rating and Reporting

ENERGY CODES



RATING and REPORTING

3.g Public Engagement Process

Staff conducted an in-depth stakeholder engagement process around the development of options and recommendations for the proposed C&I Ordinance, which would require rating and reporting and energy efficiency. This process consisted of two phases:

- Phase 1 – Working Group (Oct 2014 - Jan 2015): Over four months, staff convened and facilitated a working group of affected stakeholder (building owners, property managers, service providers, commercial brokers, etc) to help develop options for a commercial energy ordinance. This was an important process to identify aspects of the requirements that cause the most concern for the business community. Please refer to [the city's website](#) for all presentations and meeting notes from this working group. Additionally, key feedback is incorporated throughout this memo, and summary of feedback and recommendations is also included in **Attachment A**.
- Phase 2 – Broader Outreach to the Business Community (Jan-March 2015): Following the working group completion, staff presented to a number of business groups in the community including,
 - Downtown Boulder Inc., Feb. 4, 2015
 - Boulder Tomorrow, Feb. 25, 2015
 - Commercial Brokers of Boulder, March 9, 2015
 - The Boulder Group of the International Facility Management Association Denver, April 2, 2015

The city will also host a one hour webinar on March 18, 2015 for all affected building owners and interested parties.

4. Ordinance Options and Recommendations

4.a Which buildings would be impacted?

Staff evaluated a number of options for the size and type of buildings that would be impacted, and when compliance would take effect. A summary of these considerations is presented in Table 4.

Table 4: Options for Impacted Buildings

	Pros	Cons
(1) Options for Building Type - This ordinance would apply to all commercial buildings ⁵ , with the following exclusions considered.		
Option 1.A: Exclude Industrial Buildings	<ul style="list-style-type: none"> ✓ Simplifies the administrative process ✓ Eliminates many of the objections to public disclosure due to sensitive information 	<ul style="list-style-type: none"> – Excludes the most energy intensive buildings
Option 1.B: Exclude Multifamily Unit (MFU) Buildings (Recommended)	<ul style="list-style-type: none"> ✓ Simplifies the administrative process ✓ Avoids putting multiple requirements on rental housing owners ✓ Allows time to develop a future SmartRegs strategy that aligns with new requirements 	<ul style="list-style-type: none"> – SmartRegs currently requires efficiency for MFUs, but not rating and reporting – Owners of large owner occupied multifamily buildings will not be covered by either SmartRegs or this new ordinance
(2) Options for Building Size - This ordinance will cover City of Boulder owner buildings larger than 5,000 sf. These options apply to existing private sector C&I buildings.		
Option 2.A: Larger than 20,000 sf (Recommended)	<ul style="list-style-type: none"> ✓ Simpler, lower cost administration and enforcement ✓ In Boulder, buildings > 20,000 sf comprise nearly 75 percent of C&I floor area 	<ul style="list-style-type: none"> – Does not address 25 percent of the C&I floor area in Boulder – It's possible that the smaller building are among the most inefficient
Option 2.B: Larger than 10,000 sf	<ul style="list-style-type: none"> ✓ Captures more GHG emission savings and covered a larger portion of the building stock 	<ul style="list-style-type: none"> – It has proved very difficult and costly in other cities to include buildings < 20,000 sf – Covers ~375 additional buildings, but only 15% more floor area
(3) Options for Compliance Timeline		
Option 3.A: Require all buildings to comply with R&R requirements on the same date, starting in 2017	<ul style="list-style-type: none"> ✓ Provides the city with more preparation time before the first compliance date ✓ Captures GHG reductions sooner for smaller buildings 	<ul style="list-style-type: none"> – Delays action on the largest buildings – The city would not have adequate staff to support all affected building owners
Option 3.B: Require the largest buildings to comply in 2016, and phase in smaller building over time (Recommended)	<ul style="list-style-type: none"> ✓ Provides the city with data on its largest buildings as soon as possible, to inform future energy codes ✓ Allows time to get systems and processes working for a smaller subset of buildings 	<ul style="list-style-type: none"> – Slightly delays the capture of GHG reductions for smaller buildings

⁵ State, federal and county owned buildings are not subject to city ordinances.

Initially, staff recommends that a proposed C&I Ordinance would affect large (> 50,000 sf) private sector C&I buildings, newly constructed C&I buildings (>10,000 sf), and city owned building (> 5,000 sf). Staff proposes that industrial buildings are covered, but multifamily buildings are excluded. Over time, smaller existing private sector buildings (> 20,000 sf) will be phased in. **Attachment B** provides a complete breakdown of the commercial building square footage in Boulder.

With regards to phasing, the business community (owners, property managers, service providers, etc) strongly recommended that the city start with a smaller number of buildings and fine tune systems and procedures before phasing in additional buildings. After analyzing the building stock (refer to **Attachment B**), staff is confident that this approach strikes a balance between impacting a large amount of floor area, and having a small enough number of buildings so that the program is manageable. For instance, starting with buildings greater than 50,000 sf will impact 45 percent of the private sector commercial square footage, but only 10 percent of the number of buildings (~150 buildings).

With this in mind, staff recommends the following compliance timeline for a proposed C&I ordinance:

Table 5: Recommended Phasing Strategy for C&I Ordinance

City Owned Buildings	Private Sector Commercial and Industrial Buildings (Bldgs)		
	Existing Bldgs > 50,000 sf New Bldgs* >10,000 sf	> 30,000 sf	> 20,000 sf
<p><u>2016</u>: Required rating and reporting (R&R) to the city begins. Data is publicly disclosed.</p> <p><u>2019</u>: Efficiency requirements take effect</p>	<p><u>2016</u>: Required R&R to the city begins. Only aggregate energy data is publicly disclosed.</p> <p><u>2019</u> Efficiency requirements take effect</p>	<p><u>2016-2017</u>: No requirements</p> <p><u>2018</u>: Required R&R to the city begins. Only aggregate energy data is publicly disclosed.</p> <p><u>2021</u> Efficiency requirements take effect</p>	<p><u>2016-2019</u>: No requirements</p> <p><u>2020</u>: Required R&R to the city begins. Only aggregate energy data is publicly disclosed.</p> <p><u>2023</u> Efficiency requirements take effect</p>
<p>* Any building constructed since Jan 1, 2015 is considered "new"</p>			

4.b Disclosure: What metrics will be reported to the city and to the public?

Disclosure to the City

Staff proposes the following metrics are disclosed to the city in order to comply with the rating and reporting requirement. All of this information will be collected when the owner completes the required inputs in ENERGY STAR Portfolio Manager (ESPM).

- Building information (address, floor area, building type, year built, building owner and contact information, etc)
- ESPM rating⁶ (this rating accounts for weather, hours of operation, occupant density, number of computers, and other factors that impact energy use per floor area)

⁶ This rating is normalized for weather and also adjusted to reflect occupant density, operating hours, and other factors that greater influence energy use, such as the number of computers or servers in a space.

- Normalized⁷ and Non-normalized Site and Source Energy Use Intensity (EUI): units (kBtu/sf-yr)
- Estimated Greenhouse Gas Emissions (GHGs): units (Metric tons CO₂e/yr)
- Total annual electricity use (kWh/yr)
- Total annual natural gas use (therms/yr)
- Any high performance certifications (i.e. ENERGY STAR Certified, LEED certified)
- What percentage of the energy for this building comes from Windsource?
- On site renewable energy system information
- Is this building designated as a historic building?

Additionally, for buildings that are dominated by process loads (i.e. buildings used for manufacturing or industrial processing) the city will encourage building owners to develop, track and report metrics of their choosing that makes the most sense for their business process. If they choose this path, this metric will be disclosed publically (if applicable) instead of Site and Source EUI, which are not appropriate metrics for process dominated facilities.

Disclosure to Tenants

Staff recommends that the ordinance require all building owners to provide their tenants with the Statement of Energy Performance from EPA’s ENERGY STAR Portfolio Manager and any required energy assessment reports. These documents should be provided to tenants according to the same reporting schedule for disclosing such information to the city.

Disclosure to Potential Buyers and Leasers

Some cities have a requirement to disclose energy use information to potential buyers. This can be a requirement to report this information when advertising for lease or sale, at the point of transaction, or upon request. Staff does not recommend including this requirement for the City of Boulder as it would be extremely difficult to track and enforce. Further, disclosure at the point of transaction and upon request already occurs as a regular market practice in Boulder.

Disclosure to the Public

The community working group that collaborated with city staff to develop requirement recommendations spent significant time discussing the issue of public disclosure of energy data and metrics tied to specific building addresses. Table 6 is a summary of the viewpoints of working group members.

Table 6: Working Group Viewpoints on Public Disclosure

<i>Viewpoint of Building Owners and Property Manager</i>	<i>Viewpoint of Service Providers and County/City Staff</i>
<p>Primary Concern: Energy data alone may drive potential tenants or buyers away without further research.</p> <p>Secondary Concern: Service providers may use data to generate leads and solicit building owners.</p> <p>Recommendation: Do not give the public access to building specific energy metrics– report only aggregate information (group buildings by type and size range).</p>	<p>Primary Concern: If individual building data isn’t disclosed to the public, then there is a lack of data transparency in the marketplace to drive transformation.</p> <p>Recommendation: After a two year grace period, publically disclose all information reported to the city (except for owner name and contact info).</p>

⁷ “Normalized” is the energy the building would have used under average weather conditions in the building’s geographic location. Since weather in a given year can be hotter or colder than average, weather-normalized energy is used to account for yearly variations.

With this in mind, staff is presenting two options in terms of public disclosure of building specific energy information.

Table 7: Options for Public Disclosure

	Pros	Cons
<p>Option 1: Limited Public Disclosure</p> <p><i>Do not publically disclose the entire dataset with building addresses – report only compliance status and aggregate information (averages by building type and size).</i></p> <ul style="list-style-type: none"> The public can access data for a specific building by entering the property address and filling out a query form.⁸ 	<ul style="list-style-type: none"> ✓ Supports the wishes of building owners and property managers ✓ Protects privacy of building owner information ✓ Owners will still be able to compare their building performs to their peers 	<ul style="list-style-type: none"> – Does not encourage market transformation and competition – Building specific information can still be requested under the Colorado Open Records Act (CORA)
<p>Option 2: Public Disclosure to Drive Market Transformation (Recommended)</p> <p><i>After a two year grace period, publically disclose all information reported to the city (except for owner name and contact info)⁹.</i></p> <ul style="list-style-type: none"> During the grace period, only publically disclose aggregate information. Indicate which buildings are historic or process load dominated. Per the owner’s request, do not disclose energy use and ratings if a building is undergoing an efficiency retrofit. 	<ul style="list-style-type: none"> ✓ Drives market transformation by providing tenants, investors, and lenders with energy ratings and comparative metrics ✓ Will likely motivate more efficiency investments ✓ No additional cost or effort to the building owner ✓ Two year grace period allows building owners time to improve their rating before public disclosure 	<ul style="list-style-type: none"> – Owners and property manager do not support this – Owners may be contacted by service providers looking for “wasteful” buildings – Historic buildings that are difficult to retrofit will likely appear inefficient

Due to public disclosure being a key issue that City Council will weigh in on, staff is requesting EAB’s input on the proposed options above. The options differ in the sense that Option 2 more than Option 1 will encourage competition and drive market transformation by having full transparency around commercial building energy use. Under Option 2, the data is typically summarized in spreadsheet form and presented as follows:

Figure 2: Sample Public Disclosure Information (Philadelphia, PA)

Building Information		Building Performance						
Address	Property Floor Area (Buildings and Parking) (ft ²)	Electricity Use (kBtu)	Natural Gas Use (kBtu)	ENERGY STAR Score	Site EUI (kBtu/ft ²)	Source EUI (kBtu/ft ²)	Total GHG Emissions (MtCO ₂ e)	
1924 W Olney Ave.	757,521	61,617,356	6,394,249	99	849.5	2,469.2	7,995	
9801 Frankford Avenue	62,000	162,661,197	8,811,112	93	757.4	2,210.1	21,832	
3400 N. Broad Street	155,228	18,290,057	22,115,596	16	323.3	644.0	3,503	
3440 N. Broad Street	129,260	17,966,207	40,195	46	323.2	514.7	6,436	
3500 N Broad Street	485,000	16,699,836	71,788,580	Not Available	320.6	463.1	5,925	
1121 W. MONTGOMERY AVENUE	421,938	29,807,048	2,159		34	319.8	617.5	7,299
3307 N. Broad St.	169,976	15,246,713	7,864,771		25	308.6	749.6	2,348
1900 N. 12TH	168,651	271,553,301	2,109,573		6	308.2	664.7	59,078

These types of ordinance are being adopted throughout the U.S. with the intent that public disclosure is key to drive true market transformation. Yet, it’s evident that Boulder’s business community has expressed concerns regarding data privacy and the overall amount of regulations. In addition to having among the most stringent energy codes in the

⁸ Building owners are notified when information for their building is accessed.

⁹ People wanting access to a specific buildings’ dataset, must fill out a form, which is then available to owners.

country for new buildings, the city is in the process of adopting a Zero Waste Ordinance, and a building height restriction, which also affects the business community. It should also be noted that there is no compelling evidence to support the widespread belief that public disclosure of building specific energy use results in more energy savings – to date, only a few cities have published savings estimates for these programs, and all of those cities require full public disclosure.

4.c Efficiency Requirements

Staff has explored many different options for efficiency requirements, and presents the following for EAB consideration.

Table 8: Options for Efficiency Requirements

	Pros	Cons
<p>Option 1: Various Prescriptive Requirements (NOT Recommended)</p> <p><i>Requiring specific individual efficiency measures such as the phasing out of old inefficient lighting, retro-commissioning for large buildings, or required minimum performance standards for Heating Ventilation and Air Conditioning (HVAC) systems, office equipment, appliances, cooking equipment, etc.).</i></p>	<p>✓ This approach could tailor specific requirements to different building sizes and types</p>	<ul style="list-style-type: none"> – Limited to existing technologies, but efficiency gains over the next 10 years are projected to come from emerging technologies. – Other cities have found that the prescriptive measures are quickly out of date with building science and lagging behind new codes. This approach requires constant revision and updating. – These types of requirements are extremely difficult, if not impossible to enforce.
<p>Option 2: Whole Building Performance Standards (NOT Recommended)</p> <p><i>Requiring a certain level of whole building performance, such as a required minimum ENERGY STAR score or a certain level of whole building energy savings per year.</i></p>	<p>✓ Guarantees a significant reduction in energy use and GHG emissions.</p>	<ul style="list-style-type: none"> – The city does not yet understand how its building stock is performing, and what it would cost to achieve such targets.¹⁰ – The business community voiced strong opposition to these types of requirements. – Could result in unreasonable, costly, and unachievable demands on building owners.

¹⁰ Multiple years worth of data from the Rating and Reporting requirements will allow the city to understand this in the future.

	Pros	Cons
<p>Option 3: Energy Assessments with No Required Action</p> <p><i>Energy assessments¹¹ by a qualified professional are required every five years. Buildings that implemented efficiency measures and realized at least 25 percent total energy savings from the prior assessment will be on a 10 year cycle.</i></p>	<ul style="list-style-type: none"> ✓ Places the least regulation and requirements on the business community ✓ Easiest option for city administration and enforcement 	<ul style="list-style-type: none"> – Does not require any cost effective efficiency measures – Results in the least GHG emissions savings and potentially the highest costs to building owners
<p>Option 4: Energy Assessments with Limited Required Action (Recommended)</p> <p><i>Every 10 years:</i></p> <ul style="list-style-type: none"> • Energy assessments • Retro-commissioning¹² for buildings larger than 50,000 sf. • Building Tune-Ups for buildings larger than 20,000 sf every 10 years¹³. • Any old, inefficient lighting technologies (i.e. incandescent or T12 lamps) must be replaced with EnergySmart eligible replacement lighting (i.e. fluorescent or LED) technologies. 	<ul style="list-style-type: none"> ✓ Retro-commissioning, building tune-ups, and lighting retrofits typically payback in under two years ✓ Relatively simple for the city to administer and enforce ✓ 2 of the most impactful efficiency measures will be implemented across the building stock 	<ul style="list-style-type: none"> – Owners object to required retro-commissioning because of the up-front cost – There is no requirement to implement other cost effective measures that were identified in the energy assessment
<p>Option 5: Energy Assessments with Required Cost Effective Action</p> <p><i>Energy assessments by a qualified professional are required every 10 years. Any measures identified as having a positive net present value within two years must be implemented. The building owner would have 18 months to implement those measures, or to justify why they cannot.</i></p>	<ul style="list-style-type: none"> ✓ Only requires action that is applicable to each individual building ✓ Will result in greater GHG emissions reductions ✓ Only requires action which is cost effective 	<ul style="list-style-type: none"> – Owners and property manager do not support this, and are frustrated by with the amount of regulation in Boulder’s business community – It will be difficult and time consuming for the city to standardize and quality control the analysis performed by various service providers

Under all of the options, the predicted energy savings in the required energy assessment can be used to determine new, custom rebates within the EnergySmart program (see Section 4.g).

Staff recommends Option 4 because it requires efficiency actions that are proven to be cost effective and will result in higher performing buildings and less energy waste. While there are many other efficiency measures that would be cost effective, retro-commissioning, building tune-ups, and lighting upgrades apply to all building types. While Option 5 is designed to capture all cost effective energy efficiency, this would be very difficult to standardize and administer.

With any option, it will be important to provide additional incentives and support to commercial building owners.

¹¹ Equivalent to a Level 2 energy audit, as defined by the American Society for Heating, Refrigeration and Air-Conditioning Engineering (ASHRAE). This audit includes an energy end use breakdown for the building, and detailed cost and savings analysis for efficiency measures.

¹² See next page for definitions

¹³ See next page for definitions.

Retro-Commissioning and Building Tune-Ups

Retro-commissioning is a process that improves a building's operations and maintenance (O&M) procedures to enhance overall building performance. Retro-commissioning is designed to improve the efficiency of existing building operations by identifying existing functional systems that can be “tuned up” to run as efficiently as possible through low- or no-cost improvements. Depending on the age of the building, retro-commissioning can often resolve problems that occurred during design or construction, or address problems that have developed throughout the building's life.

Retro-commissioning consists of two main steps:

- Diagnosis (a study)
- Implementation

Examples of typical retro-commissioning measures include:

- Calibration/tune-up of Energy Management System points
- Adjustment of outside air and return dampers
- Resetting the chilled water and hot water supply temperatures
- Optimizing start/stop of air handlers and makeup air units (early shutdown in the evening, late start in the morning)
- Resetting of a chiller’s condenser water temperature
- Eliminating simultaneous heating and cooling

A Building Tune-Up is a scaled down version of retro-commissioning that is more appropriate for smaller buildings.

4.d Exemptions

For the Rating and Reporting and efficiency requirements, staff recommends the following exemptions:

Rating and Reporting Exemptions

- Buildings with less than one year of use data
- Unconditioned and unlit buildings
- Proven financial hardship
- Others upon request and review

Efficiency Exemptions

- Current ENERGY STAR Certification
- Current LEED EBOM Certification
- For the first compliance deadline: Buildings that have had an energy assessment in the past seven years and implemented measures that resulted in at least a 10 percent energy reduction
- Proven financial hardship
- Others upon request and review

5. Implementation Considerations

5.a Administration and Enforcement

- As proposed, the ordinance would result in creation of new requirements and a new ongoing program in the city, resulting in a commensurate need for staffing resources to develop, implement and enforce the ordinance and program. In addition to developing the program and its requirements and administering those, the city would need to manage any new incentives that are outside EnergySmart, and set up future systems for outcome based energy code enforcement (should the city move in that direction).

At this time of ordinance and program development, it is anticipated that at least one additional Full Time Employee (FTE) will be needed to implement the ordinance and there would be additional impacts to existing staffs' work plans. If a new FTE is hired for this program, a number of tasks for this position have been identified, such as;

- Manage and track compliance in the SEED Platform
- Manage any new rebate and incentive programs
- Send written and verbal reminders for compliance
- Issue warning notices and administer penalties for non-compliance
- Serve as the main point of contact for questions about the program

Fines for Non-Compliance

The city has researched a number of enforcement strategies to ensure high compliance rates. Best practices from other cities show that a combination of outreach and education, written and verbal reminders, coupled with monetary fines are the most successful. With these strategies, Seattle was able to achieve a 93 percent compliance rate in its first year. The city will continue to invest in outreach and education efforts for the building community (see Section 0) and for a potentially new position to handle on-going program implementation.

Training and Support

Following the passage of the ordinance, the city is planning to design and implement education and training programs to assist building owners with ordinance compliance. It will be important that the city provide support and resources, such as: a website, call center, green lease templates, in-person and online training of the ENERGY STAR Portfolio Manager Tool, and general assistance and support with understand the rating and reporting and energy assessment information. The city will also coordinate with EnergySmart advisors and call center operators to ensure that they are able to answer questions related to the ordinance as well.

Support for Process Load Dominated Buildings (industrial and manufacturing)

As part of the rating and reporting requirement, for buildings that are dominated by process loads (i.e. manufacturing buildings) the city will encourage owners to develop, track and report an additional metric of their choosing that makes the most sense for their business process. If they choose this path, this metric will be disclosed publically (if applicable) instead of Site and Source EUI, which are not appropriate metrics for process dominated facilities.

The [Colorado Industrial Energy Challenge](#) (CIEC) is a voluntary program managed by the Southwest Energy Efficiency Project (SWEET) and funded by the U.S. Department of Energy's (DOE) Advanced Manufacturing Office (AMO). The CIEC program challenges manufacturing companies to develop and set a five-year energy efficiency goal, provides networking and training opportunities, and offers public recognition from the Governor's office. The program is open to industrial facilities in Colorado with more than \$200,000 in annual energy costs. As part of this new ordinance, staff recommends that the city of Boulder provide \$10,000 per year to CIEC to offer these services to Boulder-based manufacturing companies that are below the annual energy cost threshold. These funds would allow CIEC to provide support services to 10 Boulder based manufacturing companies each year.

5.b Incentives

Staff is proposing aligning and designing new financial incentives for early adopters for any efficiency requirements approved by City Council. For success of the program, staff is proposing the expansion of existing resources through the city's Commercial EnergySmart rebate funds for custom rebates for efficiency measures that arise from the required energy assessments and may not apply to the current list of prescriptive rebates available. These incentives are proposed to be funded by the Climate Action Plan (CAP) tax, as shown in the table below. When the CAP tax sunsets at the end of 2017, a new source of funding (such as revenue from a municipal electric utility) will be needed to provide similar incentives to the smaller buildings that are being phased in post 2017.

Table 9: Proposed Rebates and Incentives

	Incentive	Annual Budget (2016 and 2017)
Early Adopter Incentive: Subsidizes the cost of the required periodic energy assessments	10% of cost (up to \$10,000 per building)	To be determined
EnergySmart Rebates for custom efficiency measures identified by required energy assessments	\$ per metric ton of CO ₂ e saved ¹⁴ (to be determined)	\$230,000/year <ul style="list-style-type: none"> • \$180,000 comes from the budget for commercial Energy Smart rebates • \$50,000 comes from CAP Tax carryover

6. Costs and Benefits

As with any new program, it's important to consider the anticipated costs and benefits to both the city and the community. There is a large variability in the anticipated costs to commercial building owners, depending upon which options for efficiency requirements are chosen, and also the size, complexity, and age and performance of building systems. Staff has gathered data from other cities with similar ordinances, as well as the Institute for Market Transformation, to develop these estimates in Table 11. Despite the variability in costs, the analysis in Table 11 shows that the operational cost savings can generally be two percent savings in energy cost with a less than one year simple payback just for building owners to rate and report. When annualized, the additional costs for periodic energy assessments and retro-commissioning could be less than one percent of a building's annual total operating expense.

¹⁴ Estimates of metric tons of CO₂e saved will come from the energy assessment reports

Table 10: Summary of Costs and Savings*

Requirements	Cost to City (funded by CAP Tax)	Cost to Building Owner	Savings to Building Owner	Simple Payback
Rating and Reporting (annually)	\$150,000-200,000/year*	Annually: \$500-\$2,400 per building if using a consultant OR 4-8 hours of in-house staff time <i>* free benchmarking assistance is available through Energy Smart advisors</i>	~2% savings each year in annual energy costs	< 1year
Energy Assessments (every 10 years)	\$100,000/year (incentives) + additional staff time	\$0.12-0.25/sf** <i>~0.2% of a building's annual operating expenses</i>	\$0.02-0.04 per sf per year (if efficiency is implemented)	Varies
Lighting Upgrades (every 10 years)	~\$152,000/year (EnergySmart rebates and advisor support)	\$0.10-0.20 per sf	\$0.03-0.05 per sf per year	3-4 years
Retro-commissioning or Building Tune-Up (every 10 years)	Additional staff time	Every 10 years: \$0.13-0.45/sf***	\$0.20-0.40/sf per year	0.5 – 2.5 years

* Costs are estimated and include a new full time staffer to administer the program, as well as \$100,000/year for incentives. Additional costs are for training and support and data analysis and quality control. First year costs for 2016 will likely be on the high end to develop initial materials and then reduce in future years.

** The city will provide a 10% rebate for early adopters to help offset these costs.

***Xcel Energy offers rebates for retro-commissioning and building tune-ups for as much as 75% of the costs of the study, and up to 60% of the costs of the implementation.

Rating and Reporting

This proposed ordinance may require that energy rating and reporting be done through the U.S. EPA’s ENERGY STAR Portfolio Manager Tool. This online tool is free to access and intended to streamline the energy tracking process. Cities with similar ordinances that require annual benchmarking of large, private sector buildings, have reported costs ranging from \$500-\$2,400 per building if a consultant was engaged, or 4-8 hours of staff time benchmarking was completed in-house. Requiring this will not necessarily contribute to any financial burden to building owners, while unlocking critical performance information that can spur efficiency improvements that lead to cost savings.

Building owners are more likely to invest in cost effective energy efficiency when they are aware of energy performance and use that data to inform infrastructure investments. In 2012, the U.S. EPA analyzed the energy performance of more

than 35,000 buildings that were benchmarked through ENERGY STAR from 2008 through 2011 and found that these buildings attained average annual energy savings of 2.4 percent (seven percent over a three year period).¹⁵

Energy Assessments

Energy assessments have an associated price tag, but are intended to unlock more potential savings than they cost to implement. A 2011 Pacific Northwest National Laboratory (PNNL) study led by the Department of Energy shows the cost of conducting energy audits varies from \$0.12 to \$0.50 per square foot, depending on the size and complexity of the building, with smaller buildings typically costing more on a per square footage basis.¹⁶ Industry practice suggests that the cost of an energy assessment should not exceed 10% of the annual utility bill.

Based on the average cost of utilities in local buildings and input from industry experts, staff is assuming the average cost to conduct an energy assessment in large commercial buildings in Boulder is approximately \$0.12 to \$0.25 per square foot. If energy assessments were to be required on a ten-year cycle, the annualized impacts of audits will be only \$0.02 per square foot per year. In order to put this cost into perspective, the city considered how it relates to a commercial building's typical annual operating expenses (please note, the values reported are based on information from Building Owners and Managers Association's (BOMA) 2013 Experience Exchange Report for Denver; the sample size for Boulder was too small). According to BOMA's 2013 Experience Exchange Report the average operating expenses for commercial buildings over 50,000 square feet in Denver is \$9.99/sf including fixed expenses such as property taxes, insurance, and fees. Given this average, **the annualized cost of energy assessments in Boulder is expected to be just 0.2 percent of a building's total operating expense.**

The potential savings from operational improvements and energy efficiency investments dwarf the outlay for the audit itself. Since energy costs for commercial buildings in the area average \$2.00/sf annually¹⁷, energy assessments and retrofits, which typically save 10 to 20 percent in energy costs, have the potential to save building owners \$0.20 - \$0.40/sf per year. **These annual savings are 10 to 20 times greater than the annualized cost of the audit.**

Retro-Commissioning and Building Tune-Ups

A study of 106 retro-commissioning projects showed that the costs range from \$0.13-45/sf.¹⁸ Similarly, a PNNL study shows retro-commissioning of existing buildings costs \$0.30 per square foot on average.¹⁹ If Boulder's buildings performed retro-commissioning every ten years, the annualized cost of retro-commissioning would be \$0.03 per square foot, or just 0.3 percent of an average large building's total annual operating expense. Retro-commissioning has been shown to reduce building energy consumption 16 percent on average, which would save Boulder's buildings \$0.32 per sf annually on their energy bills. **The energy cost savings from retro-commissioning will generally pay back the initial capital cost in 0.5 year – 2.5 years.**

These estimates does not quantify or account for the many non-energy benefits such as reduced O&M costs, increased occupant productivity and improved indoor environmental quality.

¹⁵ http://www.energystar.gov/ia/business/downloads/datatrends/DataTrends_Savings_20121002.pdf?8d81-8322

¹⁶ Department of Energy. *A Guide to Energy Audits*. (2011). Prepared by Pacific Northwest National Laboratory and Portland Energy Conservation, Inc. www.pnnl.gov/main/publications/external/technical_reports/pnnl-20956.pdf.

¹⁷ Based on reported Electricity, Gas, and Steam costs from BOMA's 2013 Experience Exchange Report

¹⁸ Southwest Energy Efficiency Project (SWEET)/ Western Cooling Efficiency Center (WCEC) Webinar Series. *Commissioning and Retro-commissioning*. Presented by Richard A. Farkas. Nov 2014.

¹⁹ Department of Energy. *A Guide to Building Commissioning*. . (2011). Prepared by Pacific Northwest National Laboratory and Portland Energy Conservation, Inc. http://www.pnnl.gov/main/publications/external/technical_reports/PNNL-21003.pdf

6.a Allocation of CAP Tax Funds and Carryover

	Description	2015 Budget	2016 Budget	Carryover Funds (all used in 2016)
Administration	Travel, Office expenses, etc	\$50,000	\$40,000	-
Communications		\$85,000	\$85,985	-
PE	Salary and benefits for 0.5 FTE	\$32,826	\$33,811	-
NPE	Outreach materials	\$52,174	\$52,174	-
Commercial Energy Efficiency Services		\$978,871	\$1,000,727	\$180,000
PE	In 2016, add 1 FTE for Ordinance Admin	\$200,402	\$309,693	-
C&I Ordinance	Development of supporting materials, training, annual data analysis and QC, etc	\$138,469	\$66,034	\$80,000
Commercial EnergySmart	Advising & Rebates. Carryover funds used for new incentives paired with Ordinance.	\$640,000	\$600,000	\$100,000
Community Power Partnership	Consultant to analyze data	-	\$25,000	-
Market Innovation	Boulder Energy Challenge	\$25,000	\$215,000	\$200,000
Program Tracking and Evaluation		\$90,371	\$68,666	-
PE	Salary and benefits for 0.5 FTE	\$65,371	\$33,666	-
NPE	Develop dashboards, tools, and reports related to program tracking	\$25,000	\$35,000	-
Residential Energy Efficiency Services	SmartRegs: Rebates and Advising thru CLEAResult	\$430,000	\$200,000	\$200,000
Energy Future	Salary and benefits for 2 FTE	\$240,938	\$248,166	-
TOTALS		\$1,900,180	\$1,858,544	\$580,000

PE	\$539,537	\$625,336
NPE	\$1,360,643	\$1,233,208

7. List of Attachments

Attachment A: Feedback from Working Group Meetings

Attachment B: Building Data

8. Attachment A: Feedback from Working Group Meetings

The C&I working group discussed a number of considerations that the city should take into account when developing the actual design and enforcement of the ordinance. Working group members were in agreement regarding these considerations, which should be acted on:

- **Exemptions:** Consider exemption request for hardship if it is insurmountably costly to gather whole building data (e.g. in the case of multiple master meters, and no change to data privacy rules)
- **Metrics Reported:** Include a glossary of terms with the spreadsheet or website that displays this data
- **How to Guide:** Include information on options to overcome multiple meter challenge, including the option with Xcel's My Account Portal
- **Website:** Set up a query form to allow access to building specific data – have the data go to a valid email address. Store data of who has requested this and share this with interested building owners.
- **Covered Building List:** Give owners the opportunity to provide hyperlinks for their buildings, a secondary use type, or add contact info for property managers on the covered building list, which would be posted at least 4 months in advance of ordinance compliance deadline.
- **Ordinance Language:** Require a constant sharing of data with the city – do not allow data to be “unshared” after compliance date.
- **Tenants:** Include language in the ordinance that requires tenants to disclose data within 30 days that owners need to rate and report.

Other Notes/Concerns:

- Think about how to address owner-occupied versus tenant-occupied buildings
- Include parking structures and parking lots in the city-owned building requirements (as a pilot)
- Provide guidance on mixed use buildings. E.g. data center, office space, manufacturing, etc. in single building can create a data collection and analysis headache.
- Provide special metric allowances for manufacturing/process load dominated buildings
- Commit to quality control of the data reported
- Do not reduce current incentives because of mandatory requirements
- Think about the following before compliance: What are the metrics and benchmarks this effort will manifest? How do we know if we're succeeding? What are the metrics of success?
- Messaging should be around savings and increased value for property owners. Talk about pay backs and rebates rather than audits and requirements.
- Include new incentives for early adopter.
- The working group would like to see the following:
 - Clearly articulate what is required of a building owner and what are the benefits
 - Provide adequate training and support for using ENERGY STAR Portfolio Manager
 - Identify appropriate exemptions or special requirements
 - Develop a full communication plan around this effort

9. Attachment B: Building Data

Table 11: City of Boulder Commercial and Industrial Buildings

Type	Square Feet (sf)	# of Buildings
Private Sector	42,399,182	1,856
City of Boulder	1,409,264	76
Other Public Sector ²⁰	10,217,592	117
Total	54,026,038	2,049

Table 12: Private Sector Commercial and Industrial Buildings

Size Category (sf)	Total sf	Number of Buildings	Proportion of Buildings at Size Cutoffs (e.g. >5,000 sf is 97% of sf)
< 5,000	1,111,737	393	100%
5,000-9,999	2,268,112	318	97% of sf, 74% of bldgs
10,000-19,999	5,276,787	375	90% of sf, 54% of bldgs
20,000-29,999	4,088,380	166	73% of sf, 29% of bldgs
30,000-39,999	2,986,804	87	61% of sf, 18% of bldgs
40,000-49,999	2,210,437	50	52% of sf, 13% of bldgs
50,000 and above	14,529,366	147	45% of sf, 10% of bldgs
TOTAL	32,471,623	1,536	

Table 13: City of Boulder Owned Commercial Buildings

Size Category (sf)	Total sf	Number of Buildings	Proportion of Buildings at Size Cutoffs (e.g. >5,000 sf is 93%)
<5,000	189,447	149	
5,000-9,999	164,456	26	93% of sf, 33% of bldgs
10,000-19,999	303,993	23	88% of sf, 21% of bldgs
20,000-29,999	119,999	5	77% of sf, 10% of bldgs
30,000-39,999	195,310	6	73% of sf, 8% of bldgs
40,000-49,999	0	0	66% of sf, 5% of bldgs
50,000 and above	1,868,509	12	66% of sf, 5% of bldgs
TOTAL	2,841,714	221	

²⁰ Would not be affected by this ordinance

PROGRAM UPDATE

To: Environmental Advisory Board
From: Jamie Harkins, Business Sustainability Specialist
Date: March 4, 2015
Subject: Update on Boulder Energy Challenge

The purpose of this item is to update the Environmental Advisory Board on the Boulder Energy Challenge grant program, which launched in 2014. The program was developed with the assistance of a Community Working Group to fund innovative solutions to reducing greenhouse gas emissions in Boulder. Following the evaluation of submitted applications and a Community Pitch Night in August 2014, six projects were funded:

- Boulder Housing Partners: Affordable Housing Energy Empowerment (\$70,000)
- eGo Carshare: TripSmart Pilot Project (\$19,100)
- Evolution7 Labs: Solar-Plus-Storage Demonstration Project (\$60,000)
- Lightning Hybrids: Via Hydraulic Hybrid Vehicle (\$27,000)
- Snugg Home: Electric Vehicles with Solar PV and Energy Efficiency (\$86,300)
- Superior Ecotech: CO2 Capture Algae Greenhouse at Upslope Brewing (\$75,100)

Following the announcement of the awards, each project was recognized at a reception with City Council and staff began the process of drafting grant agreements with the project teams. The process of developing the language of each grant agreement and the detailed work plans for each took longer than expected, with a majority of the agreements finalized in October/November 2014.

In addition, the grant program is receiving technical support from the Colorado Clean Energy Cluster. The Colorado Clean Energy Cluster is a nonprofit economic development organization that supports innovative projects and clean energy businesses. Executive Director Lisa Rephlo attends check-in meetings with three of the more technical projects, including Evolution7 Labs, Snugg Home and Superior Ecotech. In addition to providing technical expertise and project advice, she can also connect the projects with additional resources to support their efforts.

PROJECT UPDATES

Boulder Housing Partners: Installation of the eGauge electrical metering hardware has begun, with the equipment already installed at the control site, Madison Apartments. The next stage of

installation will occur at the Kalmia site in the next few weeks, and the project team has been meeting regularly to further refine their approach to the project.

eGo Carshare: The eGo Carshare team is currently developing the materials needed for the pilot project, including the transportation assessment/intake survey and outreach materials, and identifying the neighborhoods that outreach will be targeted to in early spring.

Evolution7 Labs: In addition to the residential test sites that were in the original project proposal, an additional commercial building was added to the project scope. This site is a City of Boulder building that already has many of the project components present, including solar PV, electric car charging stations and battery storage. The project team is working to identify the residential sites and ordering the needed components, and next steps include drafting the site specification for the City of Boulder building.

Lightning Hybrids: Due to a possible issue with the Via installation vehicle the completion of this grant agreement didn't occur until January 2015. The issue has since been resolved and the installation of the hydraulic hybrid system occurred on February 19th.

Snugg Home: The Snugg Home team has been busy marketing the project concept and recruiting early adopter participants into the process. They are using the input from the early adopters to alter and continue developing the software model that will be used with the remaining 80-90 pilot program participants.

Superior Ecotech: The Superior Ecotech team had to make some significant modifications to the original project proposal, mainly the relocation of the algae greenhouse from the roof of Upslope Brewing to the ground next to the brewery. This was mainly due to incorrect information about the strength of the roof and other accessibility issues. However the new location will improve visibility of the project and make the process of tending to the greenhouse and harvesting algae easier. The team is currently working through the property management and City of Boulder approval process before construction begins. In addition, they have also made improvements to the greenhouse technology to make the entire process more efficient and sustainable.

Staff will continue to hold project status meetings with all teams at regular intervals, and will be featuring footage of project milestones on Channel 8 as they occur. All projects are scheduled to be completed in the 4th quarter of 2015, at which time the grant program will be evaluated and the Community Working Group will assist with any program modifications for the next grant cycle in 2016.

Recommended Board Protocol for Responding to Emails from the Public

Based on the way other city boards handle emails from the public, staff recommends the following protocol for Environmental Advisory Board (EAB) response to emails from the public.

If an email from the public is only sent to board members (instead of to both board members and staff), the Chair of the EAB will forward the email on to staff. When staff receives the email, the EAB Secretary will send a response to the member of the public which reads:

“Thank you for your email to the Environmental Advisory Board. We appreciate your taking the time to communicate with us. Though the board’s guidelines do not allow us to respond to individual emails, please be assured that all messages are read and considered.

If you have additional questions regarding a particular agenda item, please contact Juliet Bonnell, Board Secretary at bonnellj@bouldercolorado.gov”

If a more substantial response is required, depending upon the nature of the email, the Board Secretary will work with the Staff Liaison to draft an appropriate email response. Again, depending on the nature of the email and the appropriate response, the board may or may not be cc’ed on staff’s follow-up email response.

March 2015

Amended: February 27, 2015

Last Planning Board Meeting: February 19, 2015

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<p>2</p> <p>DMC Mtg, 5:30 p.m., CC</p>	<p>3</p> <p>CC Meeting, 6 p.m. in CC</p> <p>*1st reading Affordable Housing Linkage Fee (S. Richstone)</p> <p>*1st reading Emergency Ordinance extending flood recovery fee waivers (C. Meschuk)</p> <p>*2nd reading Landmark Designation Ordinance for 747 12th Street (J. Hewat)</p> <p>*2nd reading proposed zoning changes - Uni Hill Moratorium project (R. McHeyser/K. Guiler)</p> <p>*IP: Potential Call-Up for easement vacation at 2248 Nicholl Street (J. Woodward)</p> <p>*IP: Potential Call-Up for Concept Plan Review for 96 Arapahoe (E. Mc Laughlin)</p>	<p>4</p> <p>BJAD, 9 am., CC</p> <p>LB, 6 p.m. in CC</p> <p>EAB 6-8pm, 1777 West Conference Room</p> <p>*Commercial & Industrial Energy Efficiency Ordinance Update (K. Tupper and E. Vasatka)</p> <p>*Neonic Resolution Update (R. Abernathy)</p>	<p>5</p> <p>PB Meeting, 5pm in CC</p> <p>*1900 Folsom Concept Plan/Rezoning (C. Van Schaack)</p> <p>*1955 28th Street Site Review Rehearing (C. Van Schaack)</p> <p>*3050 15th Street Subdivision Call Up Hearing (C. Van Schaack)</p> <p>*921 Pearl Street Call Up Hearing (S. Walbert)</p> <p>*Cottage Foods Ordinance (H. Pannewig)</p>	<p>6</p>																																																																																				
<p>9</p> <p>Boulder Civic Area Stakeholder Workshop, BMoCA, 5:30 - 8:30pm</p>	<p>10</p> <p>CC SS, 6 p.m. in CC</p> <p>Boulder Civic Area Open House, BMoCA, 6 - 8pm</p>	<p>11</p> <p>BDAB, 4 p.m. in 1777 West Conference Room</p> <p>Civic Area Joint Board Workshop, BMoCA, 5:30 - 8:30pm</p>	<p>12</p> <p>BOZA Meeting, 5 p.m. in CC</p>	<p>13</p>																																																																																				
<p>16</p>	<p>17</p> <p>CC Meeting, 6 p.m. in CC</p> <p>*Study Session Summary for 2/24 Envision East Arapahoe (L. Ellis)</p> <p>*Study Session Summary for 2/24 Planning Work Plan Update (D. Driskell)</p> <p>*1st reading of an ordinance for the annexation of Old Tale Road neighborhood (B. Johnson)</p> <p>*1st reading Landmark Designation Ordinance for 977 7th St. (J. Hewat)</p> <p>*1st reading Landmark Designation Ordinance for 1029 Broadway (J. Hewat)</p> <p>*2nd reading Emergency Ordinance extending flood recovery fee waivers (C. Meschuk)</p> <p>*2nd reading Affordable Housing Linkage Fee (S. Richstone)</p> <p>*3rd reading proposed zoning changes - University Hill Moratorium project (K. Guiler)</p> <p>*IP: Report on Economic Sustainability Strategy 2014 Action Items (J. Pinsonneault)</p>	<p>18</p> <p>UHCAMC, 9am, 1777 West Conf Rm</p>	<p>19</p> <p>PB Meeting, 6pm in CC</p> <p>*Medical Office Zoning (J. Hirt)</p> <p>*Commercial Energy Code (Tupper)</p> <p>*Housing Boulder (Sugnet)</p>	<p>20</p>																																																																																				
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<p>30</p>	<p>31</p> <p>CC SS, 6 p.m. in CC</p> <p>*Boulder Civic Area direction for Civic Area Master Plan and Parkland Site Plan (J. Crean)</p> <p>*Hold for Planning Items (S. Richstone)</p>	<table border="1"> <thead> <tr> <th colspan="7">Feb 2015</th> <th colspan="7">Apr 2015</th> </tr> <tr> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> <th>S</th><th>M</th><th>T</th><th>W</th><th>T</th><th>F</th><th>S</th> </tr> </thead> <tbody> <tr> <td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td> <td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td> </tr> <tr> <td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td> <td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td> </tr> <tr> <td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td> <td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td> </tr> <tr> <td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td> <td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td> </tr> </tbody> </table>			Feb 2015							Apr 2015							S	M	T	W	T	F	S	S	M	T	W	T	F	S	1	2	3	4	5	6	7	5	6	7	8	9	10	11	8	9	10	11	12	13	14	12	13	14	15	16	17	18	15	16	17	18	19	20	21	19	20	21	22	23	24	25	22	23	24	25	26	27	28	26	27	28	29	30		
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<p style="text-align: center; color: red; font-size: 24px;"><i>27</i></p> <p style="text-align: center;">Joint PRAB/EAB meeting to discuss Emerald Ash Borer (Kathleen Alexander) 6 p.m.</p>	<p style="text-align: center; color: red; font-size: 24px;"><i>28</i></p> <p style="text-align: center;">CC SS, 6 p.m. in CC</p> <p><small>*SS Briefing: Housing Boulder (J. Sugnet)</small></p>	<p style="text-align: center; color: red; font-size: 24px;"><i>29</i></p>	<p style="text-align: center; color: red; font-size: 24px;"><i>30</i></p>	<p style="text-align: center; color: red; font-size: 24px;"><i>31</i></p>																																																																																											

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